

# SUBSTITUTE SEQUENCE LISTING

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 Mojibian, Majid

<120> Diabetogenic Epitopes

<130> 034205.003 (08899427US1)

<140> 10/597,034  
 <141> 2006-10-03

<150> PCT/CA05/00025  
 <151> 2005-01-09

<150> US 60/535,278  
 <151> 2004-01-09

<160> 52

<170> PatentIn version 3.3

<210> 1  
 <211> 10  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Diabetogenic epitope from gliadin protein isoforms or G1b1  
 based  
 on wheat protein

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Glu Glu Gln Leu Arg Glu Leu Arg Arg Gln  
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 <213> Unknown

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 <223> Tryptic peptide of wheat storage globulin

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2018

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<223> WP5212 wheat protein sequence

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35 40 45

Gln Gln Asp Arg Pro Arg Tyr Ser His Ala Arg Cys Val Gln Glu Cys  
50 55 60

Arg Asp Asp Gln Gln Gln His Gly Arg His Glu Gln Glu Glu Gln Gly  
65 70 75 80

Arg Gly His Gly Arg His Gly Glu Gly Glu Arg Glu Glu Glu Gln Gly  
85 90 95

Arg Gly Arg Gly Arg Arg Gly Gln Gly Glu Arg Glu Glu Glu Gln Gly  
100 105 110

Arg Gly Arg Gly Arg Arg Gly Glu Gly Glu Arg Asp Glu Glu His Gly  
115 120 125

Asp Gly Arg Arg Pro Tyr Val Phe Gly Pro Arg Ser Phe Arg Arg Ile  
130 135 140

Ile Arg Ser Asp His Gly Phe Val Lys Ala Leu Arg Pro Phe Asp Glu  
145 150 155 160

Val Ser Arg Leu Leu Arg Gly Ile Arg Asn Tyr Arg Val Ala Ile Met

165	170	175
Glu Val Asn Pro Arg Ala Phe Val Val Pro Gly Leu Thr Asp Ala Asp 180 185 190		
Gly Val Gly Tyr Val Ala Gln Gly Glu Gly Val Leu Thr Val Ile Glu 195 200 205		
Asn Gly Glu Lys Arg Ser Tyr Thr Val Arg Gln Gly Asp Val Ile Val 210 215 220		
Ala Pro Ala Gly Ser Ile Met His Leu Ala Asn Thr Asp Gly Arg Arg 225 230 235 240		
Lys Leu Val Ile Ala Lys Ile Leu His Thr Ile Ser Val Pro Gly Lys 245 250 255		
Phe Gln Tyr Phe Ser Ala Lys Pro Leu Leu Ala Ser Leu Ser Lys Arg 260 265 270		
Val Leu Thr Ala Ala Leu Lys Thr Ser Asp Glu Arg Leu Gly Ser Leu 275 280 285		
Leu Gly Ser Arg Gln Gly Lys Glu Glu Glu Glu Lys Ser Ile Ser Ile 290 295 300		
Val Arg Ala Ser Glu Glu Gln Leu Arg Glu Leu Arg Arg Gln Ala Ser 305 310 315 320		
Glu Gly Asp Gln Gly His His Trp Pro Leu Pro Pro Phe Arg Gly Asp 325 330 335		
Ser Arg Asp Thr Phe Asn Leu Leu Glu Gln Arg Pro Lys Ile Ala Asn 340 345 350		
Arg His Gly Arg Leu Tyr Glu Ala Asp Ala Arg Ser Phe His Ala Leu 355 360 365		
Ala Gln His Asp Val Arg Val Ala Val Ala Asn Ile Thr Pro Gly Ser 370 375 380		

Met Thr Ala Pro Tyr Leu Asn Thr Gln Ser Phe Lys Leu Ala Val Val  
 385 390 395 400

Leu Glu Gly Glu Gly Glu Val Glu Ile Val Cys Pro His Leu Gly Arg  
 405 410 415

Asp Ser Glu Arg Arg Glu Gln Glu His Gly Lys Gly Arg Trp Arg Ser  
 420 425 430

Glu Glu Glu Glu Asp Asp Arg Arg Gln Gln Arg Arg Arg Gly Ser Gly  
 435 440 445

Ser Glu Ser Glu Glu Glu Gln Asp Gln Gln Arg Tyr Glu Thr Val Arg  
 450 455 460

Ala Arg Val Ser Arg Gly Ser Ala Phe Val Val Pro Pro Gly His Pro  
 465 470 475 480

Val Val Glu Ile Ala Ser Ser Arg Gly Ser Ser Asn Leu Gln Val Val  
 485 490 495

Cys Phe Glu Ile Asn Ala Glu Arg Asn Glu Arg Val Trp Leu Ala Gly  
 500 505 510

Arg Asn Asn Val Ile Ala Lys Leu Asp Asp Pro Ala Gln Glu Leu Ala  
 515 520 525

Phe Gly Arg Pro Ala Arg Glu Val Gln Glu Val Phe Arg Ala Lys Asp  
 530 535 540

Gln Gln Asp Glu Gly Phe Val Ala Gly Pro Glu Gln Gln Gln Glu His  
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Glu Arg Gly Asp Arg Arg Arg Gly Asp Arg Gly Arg Gly Asp Glu Ala  
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<223> Alpha/beta-gliadin A-II precursor of wheat protein

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Pro Ser Gln Gln Gln Pro Gln Glu Gln Val Pro Leu Val Gln Glu Gln  
35 40 45

Gln Phe Gln Gly Gln Gln Gln Pro Phe Pro Pro Gln Gln Pro Tyr Pro  
50 55 60

Gln Pro Gln Pro Phe Pro Ser Gln Gln Pro Tyr Leu Gln Leu Gln Pro  
65 70 75 80

Phe Pro Gln Pro Gln Leu Pro Tyr Pro Gln Pro Gln Pro Phe Arg Pro  
85 90 95

Gln Gln Pro Tyr Pro Gln Pro Gln Pro Gln Tyr Ser Gln Pro Gln Gln  
100 105 110

Pro Ile Ser Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln  
115 120 125

Gln Gln Ile Leu Gln Gln Ile Leu Gln Gln Gln Leu Ile Pro Cys Arg  
130 135 140

Asp Val Val Leu Gln Gln His Asn Ile Ala His Gly Ser Ser Gln Val  
145 150 155 160

Leu Gln Glu Ser Thr Tyr Gln Leu Val Gln Gln Leu Cys Cys Gln Gln  
165 170 175

Leu Trp Gln Ile Pro Glu Gln Ser Arg Cys Gln Ala Ile His Asn Val  
180 185 190

Val His Ala Ile Ile Leu His Gln Gln His His His His Gln Gln Gln  
 195 200 205

Gln Gln Gln Gln Gln Gln Gln Pro Leu Ser Gln Val Ser Phe Gln Gln  
 210 215 220

Pro Gln Gln Gln Tyr Pro Ser Gly Gln Gly Phe Phe Gln Pro Ser Gln  
 225 230 235 240

Gln Asn Pro Gln Ala Gln Gly Ser Phe Gln Pro Gln Gln Leu Pro Gln  
 245 250 255

Phe Glu Glu Ile Arg Asn Leu Ala Leu Gln Thr Leu Pro Ala Met Cys  
 260 265 270

Asn Val Tyr Ile Pro Pro Tyr Cys Thr Ile Ala Pro Phe Gly Ile Phe  
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Gly Thr Asn  
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<220>  
 <223> Alpha/beta-gliadin MM1 precursor of wheat protein  
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Pro Ser Gln Gln Gln Pro Gln Glu Gln Val Pro Leu Val Gln Gln Gln  
 35 40 45

Gln Phe Pro Gly Gln Gln Gln Pro Phe Pro Pro Gln Gln Pro Tyr Pro  
 50 55 60

Gln Pro Gln Pro Phe Pro Ser Gln Gln Pro Tyr Leu Gln Leu Gln Pro



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Ile	Pro	Cys	Arg	Asp	Val	Val	Leu	Gln	Gln	His	Ser	Ile	Ala	Tyr	Gly
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Ser	Ser	Gln	Val	Leu	Gln	Gln	Ser	Thr	Tyr	Gln	Leu	Val	Gln	Gln	Leu
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Gln	Gln	Gln	Gln	Gln	Gln	Gln	Pro	Leu	Ser	Gln	Val	Ser	Phe	Gln	Gln
225						230					235				240
Pro	Gln	Gln	Gln	Tyr	Pro	Ser	Gly	Gln	Gly	Ser	Phe	Gln	Pro	Ser	Gln
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Gln	Asn	Pro	Gln	Ala	Gln	Gly	Ser	Val	Gln	Pro	Gln	Gln	Leu	Pro	Gln
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Phe	Glu	Glu	Ile	Arg	Asn	Leu	Ala	Leu	Glu	Thr	Leu	Pro	Ala	Met	Cys
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Gly Thr Asn  
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 <212> PRT  
 <213> Triticum aestivum

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Gln Gln Gln Leu Val Pro Gln Leu Gln Gln Pro Leu Ser Gln Gln Pro  
 35 40 45

Gln Gln Thr Phe Pro Gln Pro Gln Gln Thr Phe Pro His Gln Pro Gln  
 50 55 60

Gln Gln Val Pro Gln Pro Gln Gln Pro Gln Gln Pro Phe Leu Gln Pro  
 65 70 75 80

Gln Gln Pro Phe Pro Gln Gln Pro Gln Gln Pro Phe Pro Gln Thr Gln  
 85 90 95

Gln Pro Gln Gln Pro Phe Pro Gln Gln Pro Gln Gln Pro Phe Pro Gln  
 100 105 110

Thr Gln Gln Pro Gln Gln Pro Phe Pro Gln Gln Pro Gln Gln Pro Phe  
 115 120 125

Pro Gln Thr Gln Gln Pro Gln Gln Pro Phe Pro Gln Leu Gln Gln Pro  
 130 135 140

Gln Gln Pro Phe Pro Gln Pro Gln Gln Gln Leu Pro Gln Pro Gln Gln  
 145 150 155 160

Pro Gln Gln Ser Phe Pro Gln Gln Gln Arg Pro Phe Ile Gln Pro Ser  
 165 170 175

Leu Gln Gln Gln Leu Asn Pro Cys Lys Asn Ile Leu Leu Gln Gln Cys  
 180 185 190

Lys Pro Ala Ser Leu Val Ser Ser Leu Trp Ser Ile Ile Trp Pro Gln  
 195 200 205

Ser Asp Cys Gln Val Met Arg Gln Gln Cys Cys Gln Gln Leu Ala Gln  
 210 215 220

Ile Pro Gln Gln Leu Gln Cys Ala Ala Ile His Ser Val Val His Ser  
 225 230 235 240

Ile Ile Met Gln Gln Gln Gln Gln Gln Gln Gln Gly Met His  
 245 250 255

Ile Phe Leu Pro Leu Ser Gln Gln Gln Gln Val Gly Gln Gly Ser Leu  
 260 265 270

Val Gln Gly Gln Gly Ile Ile Gln Pro Gln Gln Pro Ala Gln Leu Glu  
 275 280 285

Ala Ile Arg Ser Leu Val Leu Gln Thr Leu Pro Ser Met Cys Asn Val  
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Tyr Val Pro Pro Glu Cys Ser Ile Met Arg Ala Pro Phe Ala Ser Ile  
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 <212> PRT  
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 Gln Gln Gln Pro Phe Pro Gln Pro Gln Gln Pro Phe Cys Gln Gln Pro  
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 Gln Gln Thr Ile Pro Gln Pro His Gln Thr Phe His His Gln Pro Gln  
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 Gln Thr Phe Pro Gln Pro Gln Gln Thr Tyr Pro His Gln Pro Gln Gln  
 65 70 75 80  
 Gln Phe Pro Gln Thr Gln Gln Pro Gln Gln Pro Phe Pro Gln Pro Gln  
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 Gln Gln Cys Asn His Val Ser Leu Val Ser Ser Leu Val Ser Ile Ile  
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 Leu Pro Arg Ser Asp Cys Gln Val Met Gln Gln Gln Cys Cys Gln Gln  
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 Leu Ala Gln Ile Pro Gln Gln Leu Gln Cys Ala Ala Ile His Ser Val  
 210 215 220  
 Ala His Ser Ile Ile Met Gln Gln Glu Gln Gln Gln Gly Val Pro Ile  
 225 230 235 240

Leu Arg Pro Leu Phe Gln Leu Ala Gln Gly Leu Gly Ile Ile Gln Pro  
 245 250 255

Gln Gln Pro Ala Gln Leu Glu Gly Ile Arg Ser Leu Val Leu Lys Thr  
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Leu Pro Thr Met Cys Asn Val Tyr Val Pro Pro Asp Cys Ser Thr Ile  
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Leu Arg Arg Gln  
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 <223> Reverse primer for WP5212 wheat gene

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<210> 16

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<223> Tryptic peptide of wheat protein

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<212> PRT

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<223> Tryptic peptide of wheat protein

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 His Leu Gly Arg  
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Ser Ser Arg

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His Glu Arg

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Arg

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